



[home](#) > [areas of expertise](#) > [institutions that manage violent conflict](#) > nuclear non-proliferation treaty as contract

[Use of Force and Diplomacy](#)
[Ideas, Identities and](#)
[Decisional Processes that](#)
[Affect Security](#)
[Institutions that Manage](#)
[Violent Conflict](#)

Nuclear Non-Proliferation Treaty as Contract

Principal Investigator: Daniel Verdier

Since it dropped two nuclear bombs on Japan in 1945, the United States has sought to prevent the dissemination of nuclear weapons. In the 1950s, it granted certain countries access to nuclear technology in exchange for a guarantee that it be used only for peaceful applications. In 1968, it worked with the United Kingdom and Soviet Union to offer this arrangement to the rest of the world through the Nuclear Non-Proliferation Treaty (NPT).

The NPT has been highly successful. Within five years, 80 countries had signed and ratified the treaty, and by 1985, that number was 130. Two countries -- China and France -- refused to sign until 1992, while Israel, India and Pakistan still have not signed. Three countries -- Iran, Iraq and Libya -- are known to have signed and then cheated, while one country -- North Korea -- signed and then withdrew in 2003.

In this project, Verdier set out to explain why the NPT has been so successful. Previous literature on the NPT focused on the few countries that didn't sign or that cheated. Instead, Verdier focuses on countries that did sign, explaining their actions as a contract between the principal, a cartel of nuclear states, and agents, all non-nuclear states.

Using game theory, Verdier argues that the object is to maximize non-proliferation by promising to reward signatories and threatening to punish non-signatories and cheaters. He then makes predictions about which countries were likely to sign and when. Finally, he is testing those predictions on a panel of all countries from 1968-2002.

This research feeds into a larger project on international economic incentives and sanctions whose aim is to pinpoint the right mix of carrots and sticks for countries to achieve their goals in the international arena. It also contributes to a growing literature applying game theory to the study of international institutions.



Daniel Verdier
Associate Professor of
Political Science
The Ohio State
University

Columbus, OH 43201
Phone: 614.292.1681
Fax: 614.292.2407
Email: mershoncenter@osu.edu